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FIGG 2262.03

UNIVERSITYCITY PROSPERITY PROJECT
FINAL SUPERSTRUCTURE REVIEW – COMMENT AND RESOLUTION SHEET

REVIEW OF: FINAL SUPERSTRUCTURE PLANS		REVIEW TYPE: OWNER	REVIEWER(S): FDOT ERC	DATE: 3/7/17
ITEM NO.	COMMENTS	DWG. No. (IF APPLICABLE)	RESPONSE	FINAL DISPOSITION
1	This is a DB project, no comments. [Estimates, Maria Benavides]	N/A	"Agree & Close"	
2	Please check the proposed placement of Pier 2 on sheet numbers B-109 and B-110. I wanted to specifically verify if the Pier was proposed to be shifted north bringing it closer to the Canal bank. [Environmental Permits, Ashley Matthews]	B-109 & B-110	Sheets B-109 and B-110 will be revised at the next submittal (RFC) to show the bridge shift of 11 ft.	
3	Corrosion protection is not in compliance with Design Index 21802. This comment requires a written response. [Structures, Thomas Andres]	B-39, B-40, B-43 and B-69	Permanent grout caps are provided at the live stressing end of each PT bar (Anchorage Protection Type 9 per Standard Index No. 21802) as shown on Sheet B-69. Dead end anchors will be cast within the precast section with no block out. The dead end anchor will be coated with a galvanizing compound (e.g. Zinc Clad III HS) for additional corrosion protection as the exposure levels and the risk of corrosion are lower beneath the deck.	OK



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4	<p>Provide geometry control for both spans (deck elevations and camber diagrams). Include a plan note to require shop drawing for forming details including a step-by-step forming plan; including support conditions and forming design, camber details and calculations based on forming stiffness, etc. This comment requires a written response.</p> <p>[Structures, Thomas Andres]</p>	B-39, B-40, and B-43	<p>The erection manual will provide the requested information showing more details of the support conditions during casting, form stripping sequence, and location of temporary towers. The plan note related to the shop drawing requirements will be added to the listed drawings in the RFC package.</p>			<p>The deck elevations are required to be in the final superstructure plans. Revise response to add and we are OK.</p>	



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5	<p>During the stressing of the PT bars in Stage 2, Step 2, there is a concern with cracking the adjacent members that are not yet stressed or adjacent members that are not post-tensioned. The temporary stress check needs to account for the rigidity of the joints.</p> <p>a. B-109 Stage 2, Step 1.B: Are only vertical and diagonal members with PT bars to be cast? If so, when are the other members to be cast? Clarify intent.</p> <p>b. B-109 Stage 2, Step 2:</p> <p>i. Clarify what is intended for vertical versus diagonal members.</p> <p>ii. Clarify what order to stress members to minimize cracking of adjacent members. Consider stressing members in the order from the most-vertical to the least-vertical.</p> <p>iii. There is a concern with cracking in adjacent members prior to longitudinal PT that are not PT'ed. See sketches attached.</p> <p>This comment requires a written response.</p> <p>[Structures, Thomas Andres]</p>	B-38 and B-109 Stage 2, Step 2	<p>a. Sheet B-109, Stage 2, Steps 1.A through 1.C give the casting sequence of the main span superstructure elements in the final superstructure submittal.</p> <p>b.i. The diagonals are members with PT bars while the vertical members are reinforced concrete members.</p> <p>b-ii. A more detailed stressing sequence has been provided on Sheet B-109 (Stage 2) for clarification. This sequence has been added to the RFC Submittal plan sheet.</p> <p>b-iii. The effect of the PT bars has been considered in the finite element model analysis (LUSAS Bridge plus) of the main span. PT bars are defined in the truss diagonal members. The stressing sequence of all PT has been checked with the finite element model to ensure the structure is within the allowable limits as each member is stressed.</p>	<p>a. Steps 1.A thru 1.C is not clear. Clarify intent on sheet.</p> <p>b.i. OK but clarify on notes.</p> <p>b.ii. ok</p> <p>b.iii. ok</p>



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6	<p>During the stressing of the PT bars in Stage 5, Step 5, there is a concern with cracking the adjacent members that are not yet stressed or adjacent members that are not post-tensioned. The temporary stress check needs to account for the rigidity of the joints.</p> <p>i. Clarify what order to stress members to minimize cracking of adjacent members. Consider stressing members in the order from the most-vertical to the least-vertical.</p> <p>ii. There is a concern with cracking in adjacent members prior to longitudinal PT that are not PT'ed. See sketches attached.</p> <p>This comment requires a written response.</p> <p>[Structures, Thomas Andres]</p>	B-42, B-109 Stage 5, Step 5	<p>i. A more detailed stressing sequence has been provided on Sheet B-109 (Stage 4) for clarification. The stressing sequence of the PT bars has been checked to ensure the structure is within the allowable limits as the bars in each diagonal are stressed.</p> <p>ii. The stressing sequence of the longitudinal PT has been checked to ensure the structure is within the allowable limits as each tendon is stressed.</p> <p>To clarify, this response applies to Sheets B-109 (Stage 4) and B-110 (Stage 5).</p>	<p>OK</p> <p>OK</p>
7	<p>There is a concern that without transverse PT of the canopy end diaphragms that cracking will develop during longitudinal PT stressing. The concern is that the web will get dragged behind the compression zone. See sketch attached. This comment requires a written response.</p> <p>[Structures, Thomas Andres]</p>	B54 thru B-59	<p>The concrete tensile stress was checked and is less than $3\sqrt{f'c}$. In addition, 6-#8 bars are provided at the face of the Type II canopy diaphragm and 3-#8 bars are provided at the face of the Type III canopy diaphragm based on our strut and tie analysis.</p>	OK



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8	The 5S03 bars do not appear to be long enough to resist the radial tendon force. This comment requires a written response. [Structures, Thomas Andres]	B-57, Section A-A; B-59, Section A-A	The 5S03 bars cannot be extended per the provided sketch because the vertical member does not exist at the location of the tendon anchorages. The 5S03 bar legs tie into the reinforcement mat at the bottom of the canopy with a 90 degree standard hook. Therefore, the 5S03 bars resist the radial force by the tendon.	OK but the closer the radial force is to the bars, the higher the stress riser.
9	Suggest that 2 ½" grout pad be added to facilitate fit-up. This comment requires a written response. [Structures, Thomas Andres]	B-70, Detail A	A 1" thick grout pad will be added to the bearing plates at the end of the pipes near the pylon (Detail A).	OK
10	a. Stage 2, Steps 4 and 5: Suggest that not all walkway tendons D1 thru D6 be stressed prior to stressing canopy tendons. Sequence stressing to reduce temporary stresses in the span (e.g. Stress Tendons D1 thru D4, Stress C2 and C3, Stress D5 and D6). b. Stage 3: Show SPMT support locations consistent with the design calculations. Check span for temporary hauling boundary conditions. This comment requires a written response. [Structures, Thomas Andres]	B-109	a. The erection manual will provide more details of the stressing sequence. A proposed stressing sequence has been provided on Sheet B-109, Stage 2 in the RFC submittal. b. The design calculations are consistent with the current location of the SPMT supports shown on Sheet B-109. The span was checked to ensure stresses are within the allowable limits with the supports located at the first interior deck nodal zones.	a. OK b. Show distance



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11	<p>These steps are not clear. It is not clear from the Substructure Pylon details the limits of intermediate pylon region to be cast and closure pour region to be cast. Add additional details to clarify intent. This comment requires a written response.</p> <p>[Structures, Thomas Andres]</p>	B-109 and B-110: Stage 4, Step 3, and Stage 5, Step 2	<p>Once the precast main span unit is in place, the pylon intermediate section (Sheets B-24 thru B-25) will be cast with construction joints that will connect with the back span deck, diagonals, and canopy. Proposed construction joint lines have been labeled on Sheet B-24A to define the limits of the intermediate pylon region. Next, the back span deck, diagonals, and canopy will be cast in the order listed. Finally, the closure will be poured to connect the deck and canopy sections.</p>	OK
12	<p>No ADA comments.</p> <p>[ADA, Michel Rodriguez]</p>	N/A	"Agree & Close"	
13	<p>No comments</p> <p>[Geotech/Materials, Nitin Dave]</p>	N/A	"Agree & Close"	
14	<p>No comments</p> <p>[Environmental Management Off, Lillian Costa]</p>	N/A	"Agree & Close"	



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15	<p>Please provide a status of review for the required environmental permits. If any permits have been issued for the proposed project, please forward them to the FDOT District VI, Environmental Permits and NPDES Coordinator, Mr. Manuel Vega, P.E. at manuel.vega@dot.state.fl.us and copy me (Ashley.matthews@aecom.com) on the transmittal. Please continue to inform Mr. Vega of any scheduled agency coordination meetings to allow him to attend or send a representative to attend on his behalf. Thank you.</p> <p>[Environmental Permits, Ashley Matthews]</p>	N/A	A permit status log is attached. The issued permits were provided via email on 11/1/16, 12/1/16, and 2/10/17.	
16	<p>Please contact me by phone at 786-493-6676 or email Ashley.matthews@aecom.com with any environmental permit related questions. Thank you.</p> <p>[Environmental Permits, Ashley Matthews]</p>	N/A	“Agree & Close”	
17	<p>Provide weld size for anchor/stud to the joint armor.</p> <p>[Maintenance, Barbara Russell]</p>	B-105	The weld size will be shown on the strip seal shop drawings. The strip seal manufacturer usually provides this information.	
18	<p>Provide joint opening table per SDG 6.3 (reference IDS for Standard Index 21100).</p> <p>[Maintenance, Barbara Russell]</p>	B-105	Table has been added to Sheet B-105.	



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19	Reference the current AWS (Note 7). [Maintenance, Barbara Russell]	B-105	The approved General Notes (Sheet B-2) for the project state the 2005 edition of the AWS code. Note 7 is consistent with the General Notes. In addition, the current version of the code (2015) was approved after the bidding phase of this project; therefore, the current version of AWS code is not applicable.	
20	Provide pipe size and dimensions for piping behind End Bent 1. [Maintenance, Barbara Russell]	B-106	Additional callouts have been added to specify the pipe size under the south landing.	
21	Provide details for pipe hanger attachment to the bottom of the south landing deck. [Maintenance, Barbara Russell]	B-106	A pipe hanger detail has been added to Sheet B-106.	
22	Based on the review of the 100% superstructure design plans, no adverse effects to the National Register-eligible Tamiami Canal or Sweetwater Bridge are anticipated. Please note that future changes in the scope or location of work in the vicinity of the Tamiami Canal and Sweetwater Bridge could require additional coordination with the State Historic Preservation Officer to avoid adverse effects to these significant resources. [Cultural Resources, Adam Schieffer]	N/A	“Agree & Close”	



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23	<p>Contact Information: If you have any questions or require clarification for these comments, please contact Adam M. Schieffer at 813-636-8200 / adam_schieffer@janus-research.com.</p> <p>[Cultural Resources, Adam Schieffer]</p>	N/A	"Agree & Close"	
24	<p>Based on a review of the proposed project, the class of action has been determined to be a Type 2 Categorical Exclusion. FHWA LDCA concurrence was issued on 2/25/14. No response is necessary. This comment is for documentation purposes only.</p> <p>No environmental impact review comments on the 100% Superstructure Plans, Calcs or Certification.</p> <p>[Environmental Management Office, Brook Wolfe]</p>	N/A	"Agree & Close"	



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25	<p>B-37 Notes cross section has “system” word twice.</p> <p>B-39 Congested bottom node, verify space for stressing jacks. (Typ)</p> <p>B-39 Concrete placement will be difficult along diagonal members. (Typ)</p> <p>B-39 Top node intersecting with bars and anchor placement highly congested. (Typ)</p> <p>B-39 Bottom partial elevation is showing a dotted line on the top node, is this a construction joint? (Typ)</p> <p>B-52 Half cross section, difficult shape to form! Is concrete finish specified? (Typ)</p> <p>B-61 Truss member 5&6 detail appears to have a conflict.</p> <p>B-70 Section A-A welding will require scaffolding for access?</p> <p>B-104 Bottom partial elevation detail is asking roughen bottom, can this be done? Additionally it is asking a concrete plinth, is this necessary? (Typ)</p> <p>B-109 Do we have dead load deflection? Is any camber required? (Typ)</p> <p>[Construction, Rafael Urdaneta]</p>	See comment	<p>B-37: One “system” word will be deleted.</p> <p>B-39: Noted. The Contractor has reviewed this drawing and believes that he can work around these congested areas. The dashed line at the top node is not a construction joint. The dashed line has been deleted for clarification.</p> <p>B-52: The Contractor has reviewed this drawing and believes he can form this shape. The concrete finish will be form finish Class 3 as per FDOT specifications 400-15.2.4.</p> <p>B-61: Each truss member has been checked to ensure that there will be no conflicts with the PT bars.</p> <p>B-70: Scaffolding will not be needed. Plates will be shop welded to the pipes. Thus, the plates will be already attached to the pipes before its installation.</p> <p>B-104: The note to roughen the bottom of the diaphragm has been removed. A concrete plinth is provided to account for the longitudinal slope of the bridge.</p> <p>B-109: Camber diagrams will be provided with the erection manual.</p>	



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26	I have made multiple comments on previous submittals regarding RW, easements, maintenance obligations, ownership, etc. and do not recall seeing responses. Please be aware that these documents need to be executed prior to construction. [Maintenance, Renato Marrero]	N/A	The revised airspace agreement document is in progress and will be submitted to FDOT. This agreement is between FIU and FDOT, and the Design-Build Team is assisting. Please discuss the status of these documents with the FDOT PM or FIU PM.	
27	On sheet B-70, anchor bolts are specified as ASTM F1554 Grade 104 with ASTM A563 nuts and washers. Does this meet requirements of Specification (Section 460)? [Structures, Hector Laureano]	B-70	The specifications shown on B-70 are in accordance with FDOT Standard Specifications Section 646-2.3. To clarify, the specified grade on Sheet B-70 is Grade 105.	
28	Is 2-1/2" thick grout on canopy blister on B-70 to be "non-shrinkage"? Needs to meet any FDOT Specification? Not specified. [Structures, Hector Laureano]	B-70	The grout will not be "non-shrinkage." The grout will be composed of a similar concrete mix as of the superstructure to match the appearance of the concrete. A note has been added to Sheet B-70.	



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29	On sheet B-70 anchor bolts are specified with a length of 30". Is the intent for the bolts to be 30" or have an embedment of 30". If embedment of 30" is required, there may be areas where this may not be possible due to maximum thickness of 27-7/8" on blister area. (see Section A-A on B-71). Clarify. [Structures, Hector Laureano]	B-70	The intent is for the bolt to be 30" in total length. An embedment length of 21" was used in the calculations.	
30	Based on review and comparison of the superstructure design plans with the approved Type II Categorical Exclusion and subsequent reevaluations, there are no conflicts with compliance to commitments. [Other, Roberto Gutierrez]	N/A	"Agree & Close"	
35	Detail 1 shows a Dayton Superior D250SCA Bar Lock Coupler at the Freysinnet hinge. The product data sheet for this coupler shows this to be a thick walled tube of 14 inches in length and consequently as specified the coupler cannot be installed in the available 16 inch space. Please reevaluate the type of coupler to be used. [Structures, Saul Perez]	B-39	We have found that the proposed coupler length can be installed within the provided 16 inch space.	



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36	<p>Detail 1 shows a Dayton Superior D250SCA Bar Lock Coupler at the Freysinnet hinge. The product data sheet for this coupler shows this to be a thick walled tube of 14 inches in length and consequently as specified the coupler cannot be installed in the available 16 inch space. Please reevaluate the type of coupler to be used.</p> <p>[Structures, Saul Perez]</p>	B-39	<p>We have found that the proposed coupler length can be installed within the provided 16 inch space.</p>				